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ABSTRACT

The analyses of J. E. Hunter (1983) were replicated with an expanded data set. The Hunter study, the basis of the Validity Generalization system used by the United States Employment Service, contained 515 General Aptitude Test Battery validation studies. The data set in this study included these and additional studies to bring the data set to 755 studies representing 74,187 individuals. Analyses were conducted for the total sample, the original sample, and the new or additional sample. The beta weights developed by Hunter were compared with the beta weights developed for the total sample. Results indicate that the beta weights developed by Hunter in 1983 and those developed from the total sample yield virtually identical validity coefficients. Consequently, there is no need to change the beta weights currently being used. A secondary conclusion is that the validities for the additional sample are lower than those for the original sample, particularly for the perceptual or psychomotor aptitudes. There is no easy explanation for the decline in validities, but several suggestions are advanced. Eight tables present study information. An appendix contains tabulated data on the 755 studies that constitute the total sample. (SLD)

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CROSS VALIDATION OF JOB FAMILIES USING AN EXPANDED DATA SET

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CROSS VALIDATION OF JOB FAMILIES USING AN EXPANDED DATA SET

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ACKNOWLEDGMENT

The United States Employment Service (USES) conducts a test research program for developing testing tools useful in vocational counseling and placement.

The purpose of this series of reports is to provide results of significant test research projects as they are completed. These reports will be of interest to users of USES tests and to test research personnel in State agencies and other organizations.

David Synk of the Northern Test Development Field Center and John Hawk of the Division of Planning and Operations assisted in the preparation of this report.

INTRODUCTION

This report describes the replication, with an expanded data set, of Hunter's (1983) "Test Validiation for 12,000 Jobs," USES Test Research Report No. 45. This report should be viewed as an addendum to Hunter (1983) and this report presumes that the reader is familiar with the earlier report. Hunter's (1983) report serves as the basis for the Validity Generalization (VG) projects currently being used in over 40 states.

Under validity generalization the nine General Aptitude Test Battery (GATB) aptitudes are combined and interpreted in terms of three underlying composites or factors (Hunter, 1983). Hunter developed a grouping system of jobs based on the Data and Things ratings of the occupational codes in the Dictionary of Occupational Titles (DOT) (United States Department of Labor, 1977). Each job in the DOT is in one of the five job families. The aptitude composites are used in different combinations to predict job success in each of the five job families.

EXPANDED DATA SET

The data set Hunter used was consolidated in 1980 and contained 515 published Specific Aptitude Test Battery (SATB) studies (N=38,620). In preparing the data set used in the current study a file search was conducted in order to verify all data used in the prior study. Twenty-one of 4,410 validity coefficients were incorrect due to coding or rounding errors. Twenty-four of 8,820 aptitude means and standard deviations required correction. Eighteen studies were removed from the original data file because these studies used alternate criteria for research samples previously entered in the datafile, and were therefore not independent samples. Six samples were deleted for a variety of methodological problems (N less than 20, questionable experience, in appropriate English literacy and high school students in different level training programs).

Appendix 1 contains information on the 755 studies that comprise the total sample as well as the 22 studies which use alternate criteria.

PROCEDURE

The relevant analyses from Hunter (1983) were replicated on the total sample (N=74,187) and the new or additional sample (N=38,521). In addition, Hunter's beta weights and the beta weights developed on the total samples were compared for the original and additional data.

Three changes were made in the procedure used by Dr. Hunter. The first dealt with the intercorrelation matrix of the nine GATB aptitudes which is used in deriving standard deviations and validites for the three aptitude composites. A sample size weighted average of the correlation matrix reported in the Manual for the General Aptitude Test Battery, Section III Development (U.S. Department of Labor, 1970) and a correlation matrix derived from all GATB data analyzed since 1972 was used. The second change involved weighting the correlations given in the aptitude studies by their sample sizes. Such a procedure gives greater emphasis to larger samples and helps to correct for the increased variability found in smaller samples. The third change was in the computation of applicant standard deviations for the aptitude composites.

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These standard deviations were computed on the total sample and are 53.05 for GVN, 51.03 for SPQ, and 50.44 for KFM. The applicant standard deviations reported by Hunter (1983) were 61.63, 50.28, and 48.89. The discrepancy in the GVN standard deviation may be due to a coding error in the original data set.

Scores for aptitudes F and M were missing for six studies (N=518). These studies were not included in the analyses involving KFM. The total sample with complete aptitude scores is 73,669.

The results for the original sample reported in this paper are based on the 491 methodologically sound and independent studies. The changes in procedures described above were used. This accounts for the differences between the results for the original sample in this paper and Hunter (1983).

The job family numbering system used in this report is the one used in the Employment Service not the one used by Hunter (1983). In some parts of this report the order of listing the job families is the same as Hunter in order to facilitate the comparison with previous results.

RESULTS

The observed and true (corrected) validities for the original, additional, and total samples are shown in Table 1. The original sample does not include the 24 studies with alternate criteria or methodological problems. The true validities are corrected for criterion reliability and range restriction. The corrections for criterion reliability are the same as Hunter (1983), .80 for training success and .60 for job proficiency. The applicant standard deviations for the composites were computed on the total sample. The validities for the additional sample were lower than the original sample. The largest decrease was found for KFM and the smallest for GVN.

The observed validities for aptitude composites in each job family and multiple Rs are shown in Table 2. The pattern of validities is similar to what Hunter reported. As job complexity decreases, KFM validities increase. With the exception of Job Family I, as job complexity decreases, GVN validities decrease.

Table 3 shows the true validities separately for job proficiency and training success studies. Again the difference between Hunter's finding is the lower validities, particularly for KFM.

The regression equations for job proficiency and training success are shown in Tables 4 and 5. Overall the results are similar between the regression equations from the original and total samples. The biggest differences are in Job Family I.

The regressions equations developed by Hunter (1983) and the regression equations developed from the total sample were applied to the original, additional and total samples. The results for observed valdities are shown in Table 6 and for true validities in Table 7. The results show that the validities using the two sets of regression equations are vitually identical. For job proficiency studies, the largest difference in validity between the regression equations is .01 correlation points. This means that even though the regression equations developed on the total sample are slightly different than the ones developed by Hunter (1983), there will be no loss in validity using the older regression equations.

Table 1

Weighted Mean Observed and True Validities

	Original N=35,666[a]			Additional N=38,521[a]			Total N=74,187[a]		
	GVN	SPQ	KFM	GVN	SPQ	KFM	GVN	SPQ	KFM
Observed	.25	.25	.23	.21	.17	.13	.23	.21	.18
True	.40	.37	.33	.32	.25	.18	.36	.31	.25

[a]slightly lower for KFM

Table 2

Job Family Observed Validities and Multiple Rs

	Original					Additional					Total				
Job Family	N	GVN	SPQ	KFM	R	N	GVN	SPQ	KFM	R	N	GVN	SPQ	KFM	R
I	1,258	.34	.36	.19	.37	3,971	.16	.14	.08	.16	5,229	.20	.19	.11	.21
II	1,158	.14	.17	.35	.35	200	.19	.16	.21	.24	1,358	.15	.17	.33	.33
III	3,842	.30	.21	.15	.31	1,007	.27	.21	.12	.27	4,849	.29	.21	.15	.30
IV	15,632	.28	.26	.21	.30	22,375	.23	.17	.13	.24	38,007	.25	.21	.16	.26
V	13,776	.22	.24	.28	.30	10,968	.18	.18	.16	.21	24,744	.20	.21	.22	.26

Table 3

Average True Validity for Job Proficiency

and Training Success

	Original				Additional				Total			
	N	GVN	SPQ	KFM	N	GVN	SPQ	KFM	N	GVN	SPQ	KFM
Job Proficiency	29,739	.38	.36	.34	34,813	.30	.24	.18	64,552	.34	.30	.25
Training Success	5,927	.50	.40	.24	3,708	.52	.34	.20	9,635	.51	.38	.23

Table 4

Regression Equations and Multiple Correlations for Job Proficiency

	Original				Total			
Job Family	GVN	SPQ	KFM	R	GVN	SPQ	KFM	R
I	59%	30%	11%	.56	72%	28%		.31
II	13%		87%	.49	11%		89%	.46
III	100%			.50	100%			.48
IV	73%		27%	.44	78%		22%	.37
V	44%		56%	.44	48%		52%	.37

Table 5

Regression Equations and Multiple Correlations for Training Success

	Original				Total			
Job Family	GVN	SPQ	KFM	R	GVN	SPQ	KFM	R
I	100%			.58	52%	48%		.68
III	100%			.47	100%			.47
IV	80%		20%	.50	100%			.52
V	66%		34%	.56	43%	25%	32%	.50

Table 6

Tryout of Old and New Regression Equations Using
Observed Validities

Job Proficiency

	Original			Additional			Total		
Job Family	N	Old Betas	New Betas	N	Old Betas	New Betas	N	Old Betas	New Betas
I	1,078	.35	.35	3,907	.15	.16	4,985	.20	.20
II	1,158	.35	.35	200	.22	.22	1,358	.33	.33
III	2,424	.30	.30	638	.25	.25	3,062	.29	.29
IV	11,958	.28	.28	18,976	.21	.21	30,934	.24	.24
V	13,121	.29	.29	10,862	.20	.20	23,983	.25	.25
	29,739	.29	.29	34,583	.20	.20	64,322	.25	.24

Training Success

	Original			Additional			Total		
Job Family	N	Old Betas	New Betas	N	Old Betas	New Betas	N	Old Betas	New Betas
I	180	.41	.47	64	.54	.51	244	.45	.48
III	1,418	.30	.30	369	.30	.30	1,787	.30	.30
IV	3,674	.34	.34	2,965	.36	.36	6,639	.35	.35
V	655	.41	.43	106	.04	.05	761	.36	.37
	5,927	.34	.34	3,504	.35	.35	9,431	.34	.34

Table 7

Tryout of Old and New Regression Equations Using
True Validities

Job Proficiency

	Original			Additional			Total		
Job Family	N	Old Betas	New Betas	N	Old Betas	New Betas	N	Old Betas	New Betas
I	1,078	.56	.55	3,907	.24	.24	4,985	.31	.31
II	1,158	.49	.49	200	.29	.28	1,358	.46	.46
III	2,424	.50	.50	638	.40	.40	3,062	.48	.48
IV	11,958	.44	.44	18,976	.32	.32	30,934	.37	.37
V	13,121	.44	.43	10,862	.29	.29	23,983	.37	.37
	29,739	.45	.45	34,583	.30	.31	64,322	.37	.37

Training Success

	Original			Additional			Total		
Job Family	N	Old Betas	New Betas	N	Old Betas	New Betas	N	Old Betas	New Betas
I	180	.58	.66	64	.82	.74	244	.64	.68
III	1,418	.47	.47	369	.48	.48	1,787	.47	.47
IV	3,674	.50	.50	2,965	.53	.54	6,639	.51	.52
V	655	.56	.57	106	.05	.05	761	.49	.50
	5,927	.50	.51	3,504	.51	.52	9,431	.51	.51

The relevant analyses from Hunter (1983) were replicated for the total sample and the results are shown in Appendix 2. In order to facilitate comparisons, the table numbering in Appendix 2 is the same as Hunter (1983). The job family numbering system is the one currently used in the Job Service, but the order is the same as Hunter (1983).

DISCUSSION AND CONCLUSIONS

This study was conducted as a cross-validation of Hunter's (1983) application of validity generalization techniques to GATB data. Comparisons were made between the following three data sets: 491 independent and methodologically sound GATB validation studies used by Hunter (1983); 264 additional studies, both published and unpublished; and the total data set of 755 studies. The primary finding of this study is that the regression equations developed by Hunter (1983) to get job family percentile scores and the regression equations developed from the total sample produce virtually identical validities when applied to the total sample. This means that there is no need to change the currently used job family regression equations. A secondary finding of this study is that the validities for the additional sample are lower than the original sample, particularly for KFM.

The comparability of the regression equations is shown in Tables 6-7. The regression equations developed by Hunter (1983) and the regression equations developed based on the total sample were used to calculate valdities for the original, additional, and total samples. For job proficiency studies, the largest difference in validities for any job family is .01 correlation points. This means that even though the contributions of the aptitude composites varied slightly in the regression equations (see Table 4), there is no difference in validities between the two sets of regression equations. The results for training studies are similar to job proficiency. The average validity across all five job families is virtually the same but there are larger differences for Job Family I due in part to the small sample sizes.

There is no easy explanation for the decline in validities. The decreases in validities were substantial between the original and additional samples. In terms of true validities, GVN decreased 20%, SPQ decreased 32%, KFM decreased 45% and average job family validities for proficiency studies decreased 31%. One way to investigate the decline in validities is to compare the original and additional samples. The original sample was comprised of 491 studies (N=35,666) and had an average sample size of 73. Most of the studies were conducted prior to the start of the revalidation program in 1972 and most of the studies were conducted at a single location. The additional sample was comprised of 264 studies (N=38,521) and had an average sample size of 146. Most of the studies were conducted as a part of the revalidation program and most of the studies were conducted at multiple locations.

One of the differences between the two samples is the relationship of age, education, and experience with the criterion. In order to investigate the effect of these differences, partial correlations were computed between aptitude composites and the criterion. These partial correlations show the relationship between aptitude and criterion when age, education, and experience are controlled for simultaneously. Unfortunately, not all of the intercorrelations required to compute partial correlations were available on the total sample. Estimates of these correlations were made using the available data. The results in Table 8 show that controlling for age, education, and experience reduced the differences in observed validities slightly.

Another difference between the samples that might affect validities is the number of locations and/or supervisors per study. More of the studies in the original sample were conducted at a single location. Differences in rater standards in level of job performance between organizations might lower validities when the data is pooled across organizations. In order to investigate this hypothesis, data on 26,835 workers were analyzed by computing validity coefficients in two ways. The first combining all the data for a study (SATB) and computing validity coefficients across all workers. The second method was to compute validity coefficients for each location (with seven or more workers) within a study and then compute average validity coefficients across locations, weighting by sample size at each location. The difference between these validity coefficients was computed for each study and then averaged across all studies. The mean difference for the three composites is .0047 correlation points. This analysis was conducted using observed (uncorrected) validity coefficients. A similar analysis, using slightly different procedures, was conducted using true (corrected) validity coefficients (Gandy & McDaniel, 1986). The average difference in composite validities was less than .02 correlation points. These two studies indicate that only a small part of the decline in validities can be attributed to single vs. multiple location studies.

Other possible explanations for the decline in validities include differences in data collection methods and controls; differences in types of jobs sampled; and changes in aptitude requirements due to technological advances. Whatever the explanation for the decline in validities, the important point is that there is no need to change the job family regression equations developed by Hunter (1983).

Table 8

Zero Order and Partial Correlations (Controlling for Age, Education, and Experience) for Original and Additional Samples (Observed Validities)

	GVN		SPQ		KFM	
	Zero Order	Partial	Zero Order	Partial	Zero Order	Partial
Original	.25	.24	.25	.25	.23	.25
Additional	.21	.22	.17	.20	.13	.16
Difference	.04	.02	.07	.05	.100	.08
Decline	18%	11%	30%	21%	43%	34%

Note. Computations of difference and decline done with four decimals.

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Hunter, J. E. (1983). Test validation for 12,000 jobs: An application of job classificaton and validity generalizaton to the General Aptitude Test Battery (GATB). Washington, D.C.: U.S. Department of Labor, Employment and Training Administration.

U.S. Department of Labor. (1977). Dictionary of Occupational Titles (4th ed.). Washington, D.C.

U.S. Department of Labor. (1970). Manual for the USES General Aptitude Test Battery, Section III: Development. Washington, D.C.: Government Printing Office.

Appendix 1

List of Studies in USES Data Base (Updated in 1987)

List of Studies for Total Sample

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
1	1	Mica Splitter	779.681-010	38	1	1	1	2
2	1	Stock Clerk	222.387-058	31	1	1	1	2
2	2	Stock Clerk	222.387-058	151	3	1	1	2
3	1	Packager, Machine	920.685-078	32	1	1	1	2
4	1	Lockstitch-Machine Operator	786.682-078	27	1	1	3	2
4	2	Lockstitch-Machine Operator	786.682-170	23	1	1	3	2
4	3	Lockstitch-Machine Operator	786.682-170	47	1	1	3	2
4	4	Lockstitch-Machine Operator	786.682-170	36	1	1	1	2
4	5	Glove Sewer	784.682-010	36	1	1	3	2
4	6	Glove Sewer	784.682-010	32	1	1	1	2
4	7	Glove Sewer	784.682-010	32	1	1	1	2
4	8	Glove Sewer	784.682-010	22	1	1	1	2
4	9	Glove Sewer	784.682-010	29	1	1	1	2
5	1	Bookkeeping-Machine Operator	210.382-022	60	1	1	3	2
5	2	Bookkeeping-Machine Operator	210.382-022	42	1	1	1	2
7	1	Laboratory Tester	029.261-010	82	2	1	1	2
7	2	Laboratory Tester	029.261-010	36	1	1	2	2
7	3	Laboratory Tester	029.261-010	95	3	1	1	2
8	1	Tube Assembler, Electrical	725.384-010	100	1	1	3	2
8	2	Tube Assembler, Electrical	725.384-010	65	1	1	3	2
8	3	Tube Assembler, Electrical	725.384-010	43	1	1	1	2
8	4	Tube Assembler, Electrical	725.384-010	73	1	2	3	1
9	1	Central-Office Operator	235.462-010	80	1	1	1	1
9	2	Central-Office Operator	235.462-010	88	1	1	1	2
9	3	Central-Office Operator	235.462-010	135	2	1	1	2
10	1	Stenographer	202.362-014	130	1	2	4	2
10	2	Stenographer	202.362-014	60	1	2	4	2
10	3	Stenographer	202.362-014	50	1	2	4	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
10	4	Typist	203.582-066	58	1	2	4	2
10	5	Clerk-Typist	203.362-010	51	1	1	1	2
10	7	Typist	203.582-066	141	3	1	1	2
10	8	Stenographer	202.362-014	622	3	1	1	2
10	9	Clerk-Typist	203.362-010	431	3	1	1	2
11	1	Carpenter	860.381-022	46	1	2	8	2
11	2	Carpenter	860.381-022	154	3	1	1	1
11	3	Carpenter	860.381-022	73	1	2	7	2
12	1	Machinist	600.280-022	71	1	1	1	2
12	2	Machinist	600.280-022	40	1	2	7	1
12	3	Machinist	600.280-022	283	3	1	1	1
13	1	Assembler, Internal Combustion Engine	806.481-014	33	1	1	1	2
13	2	Assembler, Internal Combustion Engine	806.481-014	26	1	1	1	2
13	3	Assembler, Internal Combustion Engine	806.481-014	45	1	1	1	1
14	1	Underwriter	169.167-058	81	2	1	1	2
14	2	Underwriter	169.167-058	27	2	2	1	2
15	1	Decorator	784.684-022	34	1	1	3	2
16	1	Packager, Hand	920.587-018	61	1	1	1	2
17	1	Press Tender	556.685-066	64	1	1	1	1
17	2	Press Tender	556.685-066	30	1	1	3	2
18	1	Decorator	740.684-014	70	1	1	1	2
19	1	Pilot-Control Operator	559.382-046	42	1	1	2	2
20	1	Wrapper-Layer-and-Examiner, Softwork	529.685-270	46	1	1	1	2
20	9	Cutter	529.685-082	63	2	1	1	2
21	1	Electic-Motor Assembler	721.684-022	60	1	1	1	2
22	1	Fettler	779.684-018	35	1	1	2	2
23	1	Manager, Circulation	163.167-014	38	1	1	1	1
24	1	Fuse Assembler	737.684-022	90	1	1	-	2
25	1	Presser, All-Around	363.682-014	33	1	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
26	1	Poultry-Dressing Worker	525.687-082	72	1	1	1	2
27	1	Light-Bulb Assembler	692.685-118	34	2	1	3	2
28	1	Packager, Hand	920.587-018	46	2	1	1	2
28	2	Packager, Hand	920.587-018	445	3	1	1	1
29	1	Packager, Hand	920.587-018	57	1	1	1	1
30	1	Manager, Theater	187.167-154	32	1	1	1	2
31	1	Coding Clerk	209.387-010	66	1	1	1	2
31	2	Checker II	209.687-010	121	3	1	1	2
32	1	Court Clerk	243.362-010	51	1	1	1	2
34	1	Bindery Worker	653.685-010	103	1	1	1	2
34	2	Bindery Worker	653.685-010	185	3	1	1	2
34	3	Bindery Worker	653.685-010	281	3	1	6	2
35	1	Packager, Hand	920.587-018	50	1	1	1	2
36	2	Electrical Engineer	003.061-010	29	1	1	2	2
36	4	Electrical Engineer	003.061-010	150	1	2	8	2
37	1	Pharmacist	074.161-010	64	2	2	8	2
38	1	File Clerk II	206.367-014	50	1	1	1	2
38	2	File Clerk II	206.367-014	211	3	1	1	2
39	1	General Practitioner	070.101-022	49	1	1	8	1
40	1	Web-Press Operator	651.362-030	112	1	1	1	2
40	2	Web-Press Operator	651.362-030	48	1	1	1	1
40	3	Web-Press Operator	651.362-030	32	1	1	1	2
40	4	Web-Press Operator	651.362-030	50	1	2	1	2
40	5	Web-Press Operator	651.362-030	51	1	1	1	2
41	1	Boarding-Machine Operator	589.685-010	27	2	1	3	2
41	2	Boarding-Machine Operator	589.685-010	24	2	1	3	2
41	3	Boarding-Machine Operator	589.685-010	52	2	1	3	2
42	1	Tabulating-Machine Operator	213.682-010	203	1	1	1	2
43	1	Automobile Mechanic	620.261-010	247	1	1	1	2
43	2	Automobile Mechanic	620.261-010	425	3	1	1	2
44	1	Punch-Press Operator	615.482-022	52	1	1	1	2
44	2	Punch-Press Operator	615.482-022	89	3	1	1	2
45	1	Shipfitter	806.381-046	62	1	1	2	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
45	2	Shipfitter	806.381-046	252	3	1	1	2
46	1	Record-Press Tender	556.685-070	50	1	1	3	2
47	1	Nursery School Attendant	359.677-018	83	1	2	8	2
47	2	Nursery School Attendant	359.677-018	174	3	1	1	2
48	1	Manager, Barber or Beauty Shop	187.167-058	51	1	1	2	2
49	1	Dentist	072.101-010	96	4	2	8	1
49	2	Dentist	072.101-010	96	1	2	8	1
49	3	Dentist	072.101-010	81	4	2	8	1
49	4	Dentist	072.101-010	81	1	2	8	1
50	1	Carding-Machine Operator	681.685-030	51	1	1	2	2
51	1	Compositor	973.381-010	107	1	1	1	2
52	1	Fireworks Assembler	737.587-014	75	1	1	1	1
53	1	Spinner, Frame	682.685-010	60	1	1	2	2
53	2	Spinner, Frame	682.685-010	180	3	1	1	2
54	1	Dental Hygienist	078.361-010	83	1	2	8	1
55	1	Dietitian, Chief	077.117-010	57	1	2	1	2
56	1	Light-Bulb Assembler	692.685-118	50	1	1	1	2
57	1	Upholsterer, Inside	780.681-010	49	1	1	2	2
57	2	Upholsterer, Inside	780.681-010	41	1	1	2	2
57	3	Upholsterer, Inside	780.681-010	41	4	1	3	2
57	4	Upholsterer, Inside	780.681-010	41	4	1	3	2
57	5	Upholsterer, Inside	780.681-010	199	3	1	1	2
58	1	Veterinarian	073.101-010	33	1	2	8	1
58	2	Veterinarian	073.101-010	39	1	2	8	1
59	1	Dressmaker	785.361-010	55	1	2	8	1
60	1	Pairer	684.687-010	58	1	1	3	2
61	1	Plumber	862.381-030	253	4	1	1	1
61	2	Plumber	862.381-030	253	1	1	1	1
61	3	Plumber	862.381-030	411	2	1	-	2
62	1	Stemmer, Hand	521.687-134	50	1	1	3	2
63	1	Garment Folder	789.687-066	55	1	1	1	1
63	2	Garment Folder	789.687-066	103	3	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
64	1	Material Expediter	221.367-042	51	1	1	1	2
65	1	Stocking Inspector	684.684-010	57	1	1	4	2
66	1	Assembler, Dry Cell	727.687-022	94	1	1	1	1
67	1	Stemmer, Machine	521.685-334	71	1	1	1	2
68	1	Refinery Operator	549.260-010	63	1	1	2	2
68	2	Refinery Operator	549.260-010	194	2	1	1	2
69	1	Electrician, Airplane	825.281-018	51	1	1	1	2
70	1	Artificial Inseminator	418.384-010	59	1	1	1	2
71	1	Cosmetologist	332.271-010	99	1	2	-	2
71	2	Cosmetologist	332.271-010	386	3	1	1	2
72	1	Electrician	824.261-010	464	1	1	1	1
72	2	Electrician	824.261-010	464	4	1	8	1
72	3	Electrician	824.261-010	124	2	2	5	2
72	4	Electrician	824.261-010	129	2	2	5	2
73	1	Folding-Machine Operator	649.685-046	55	1	1	1	2
74	1	Central-Office Repairer	822.281-014	142	1	1	1	2
75	1	Mender	728.684-042	52	1	1	1	2
76	1	Aircraft Mechanic, Rigging and Controls	806.381-018	52	1	1	1	2
78	1	Sewing-Machine Operator	787.682-074	58	1	1	3	2
78	1	Sewing-Machine Operator	787.682-074	91	1	1	3	2
79	1	Fishing-Rod Assembler	732.684-066	56	1	1	1	2
80	1	Radiologic Technologist	078.362-026	75	1	1	1	2
80	2	Radiologic Technologist	078.362-026	137	3	1	1	2
80	3	Radiologic Technologist	078.362-026	50	2	1	1	2
80	4	Radiologic Technologist	078.362-026	62	2	1	1	2
80	5	Radiologic Technologist	078.362-026	40	2	2	1	2
80	5	Radiologic Technologist	078.362-026	40	4	2	8	2
81	1	Assembler	710.681-010	57	1	1	2	2
82	1	Sheet-Metal Worker	804.281-010	79	1	2	8	2
82	2	Sheet-Metal Worker	804.281-010	152	3	1	1	2
83	1	Scrapper	794.687-050	53	1	1	1	1

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
84	1	Material Handler	929.687-030	52	1	1	1	1
85	1	Baker	526.381-010	65	1	2	8	2
86	8	Printer Operator, Black-and-White	976.682-014	50	1	1	1	2
87	1	Teacher, Secondary School	091.227-010	123	2	2	8	1
87	2	Teacher, Secondary School	091.227-010	81	2	2	8	1
87	3	Teacher, Secondary School	091.227-010	30	2	2	8	1
88	1	Clothes Designer	142.061-018	102	1	1	8	2
88	2	Clothes Designer	142.061-018	47	1	1	8	1
89	1	Machine Feeder	819.686-010	50	1	1	3	2
90	1	Calculating-Machine Operator	216.482-022	53	1	1	1	2
91	1	Knitting-Machine Fixer	689.280-022	51	1	1	1	2
93	1	Director, Funeral	187.167-030	50	1	2	1	1
94	1	Gluer	795.687-014	56	1	1	1	1
95	1	Packager, Hand	920.587-018	50	1	1	2	2
96	1	Nut Sorter	521.687-086	74	1	1	2	2
97	1	Inspector	619.381-010	70	1	1	1	1
98	1	Cold-Mill Operator	613.462-010	51	1	1	1	2
99	1	Packager, Machine	920.685-078	63	1	1	2	2
100	1	Cabinet Maker	660.280-010	81	1	2	7	2
100	2	Cabinet Maker	660.280-010	31	1	1	-	2
101	1	Assembler, Automobile	806.684-010	213	2	1	1	2
101	2	Assembler, Automobile	806.684-010	72	2	1	1	2
102	1	Appliance Assembler, Line	827.684-010	61	1	1	1	1
103	1	Electronics Mechanic	828.281-010	50	1	1	1	2
104	1	Paper Sorter and Counter	649.687-010	59	1	1	1	2
105	1	Employment Clerk	205.362-014	57	1	1	1	2
105	2	Employment Interviewer	166.267-010	32	2	1	1	2
105	3	Claims Adjudicator	169.267-010	39	2	1	2	2
106	1	Power-Plant Operator	952.382-018	54	2	2	8	1
106	1	Power-Plant Operator	952.382-018	54	4	2	8	1
107	1	Bricklayer	861.381-018	50	1	2	8	1

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
108	1	Proofreader	209.387-030	57	1	1	4	2
108	1	Proofreader	209.387-030	57	4	1	4	2
108	2	Proofreader	209.387-030	48	1	1	1	2
109	1	Pantographer	979.382-022	50	1	1	1	2
110	1	Insulation-Blanket Maker	806.684-078	55	1	1	1	2
111	1	Airframe-and-Power Plant Mechanic	621.281-014	75	1	2	8	1
111	1	Airframe-and-Power Plant Mechanic	621.281-014	272	3	1	1	2
112	1	Tile Sorter	573.687-038	50	1	1	3	2
112	2	Kiln Placer	573.686-026	39	1	1	2	2
112	3	Paster	773.684-014	38	4	1	3	2
112	4	Paster	773.684-014	38	1	1	2	2
112	5	Paster	773.684-014	38	4	1	1	2
112	6	Paster	773.684-014	38	4	1	1	2
113	1	Television-and-Radio Repairer	720.281-018	66	1	1	1	2
113	2	Television-and-Radio Repairer	720.281-018	62	1	2	8	2
114	1	Auditor	160.162-014	54	2	2	1	1
114	2	Accountant	160.167-010	30	1	2	8	1
115	1	Weaver	683.682-038	168	1	1	1	2
115	2	Weaver	683.682-038	57	2	1	1	2
115	3	Weaver	683.682-038	37	2	1	1	2
115	4	Weaver	683.682-038	126	3	1	1	2
116	1	Sorter, Agricultural	529.687-186	74	1	1	1	2
116	2	Sorter, Agricultural	529.687-186	57	1	1	2	2
116	3	Sorter, Agricultural	529.687-186	44	1	1	3	2
116	4	Sorter, Agricultural	529.687-186	94	1	1	1	2
117	1	Tube Assembler, Electron	725.384-010	63	1	1	5	2
117	1	Tube Assembler, Electron	725.384-010	63	4	1	5	2
118	1	Egg Candler	529.687-074	52	1	1	1	2
119	1	Looper	689.682-010	87	1	1	2	2
120	1	Fire Fighter	373.364-010	130	1	1	1	2
120	2	Fire Fighter	373.364-010	60	2	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
121	1	Cannery Worker	529.686-014	54	1	1	1	2
121	2	Cannery Worker	529.686-014	83	1	1	1	2
121	3	Cannery Worker	529.686-014	57	1	1	1	2
122	1	Cannery Worker	529.686-014	141	1	1	1	2
122	2	Cannery Worker	529.686-014	82	1	1	1	2
122	3	Cannery Worker	529.686-014	53	1	1	3	2
122	4	Cannery Worker	529.686-014	51	1	1	1	2
122	5	Cannery Worker	529.686-014	50	1	1	2	2
122	5	Cannery Worker	529.686-014	50	1	1	2	2
122	6	Cannery Worker	529.686-014	33	1	1	1	2
123	1	Die Cutter	699.682-022	50	1	1	1	2
123	2	Die Cutter	699.682-022	36	1	1	2	2
124	1	Tractor-Trailer-Truck Driver	904.383-010	50	1	1	2	2
124	2	Tractor-Trailer-Truck Driver	904.383-010	320	3	1	1	2
125	2	Seamless-Hosiery Knitter	684.685-010	52	1	1	1	2
126	1	Welder, Combination	819.384-010	33	1	2	7	2
126	2	Welder, Combination	819.384-010	51	1	2	7	2
126	3	Welder, Combination	819.384-010	52	1	2	1	1
126	4	Welder, Combination	819.384-010	220	3	1	1	2
127	1	Packager, Hand	920.587-018	54	1	1	?	?
128	1	Linotype Operator	650.582-010	164	1	2	1	?
129	1	Assembler	710.681-010	52	1	1	2	2
130	1	Seamless-Hosiery Knitter	684.685-010	54	2	1	2	2
131	1	Industrial-Truck Operator	921.683-050	202	1	1	1	2
131	2	Industrial-Truck Operator	921.683-050	66	2	1	1	2
132	1	Patternmaker, Metal	600.280-050	60	1	1	1	2
132	2	Patternmaker, Wood	661.281-022	51	1	1	1	2
133	1	Firesetter	692.360-018	52	1	1	2	2
134	1	Toy Assembler	731.687-034	86	1	1	1	2
134	2	Toy Assembler	731.687-034	54	1	1	1	2
135	1	Production-Machine Tender	609.685-018	50	1	1	1	2
135	2	Production-Machine Tender	609.685-018	227	2	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
136	1	Assembler, Small Parts	706.684-022	51	1	1	1	2
137	1	Bag-Machine Operator	649.685-014	55	1	2	1	-
138	1	Silk Finisher	363.681-010	53	1	1	3	2
138	2	Presser, Hand	363.684-014	40	1	1	1	2
139	1	Water-Treatment-Plant Operator	954.382-014	51	2	1	1	2
140	1	Stripper	971.381-050	53	1	1	1	2
140	2	Stripper	971.381-050	50	2	1	1	2
141	1	Bench Assembler	706.684-042	52	2	1	1	2
142	1	Solderer, Production Line	813.684-022	50	1	1	2	2
144	1	Machinist, Wood	669.380-014	100	1	1	1	2
144	2	Machinist, Wood	669.380-014	59	2	1	1	2
145	1	Cashier-Checker	211.462-014	119	1	1	4	2
145	2	Cashier-Checker	211.462-014	145	2	2	4	1
145	3	Cashier-Checker	211.462-014	92	2	2	7	1
146	1	Presser, Machine	363.682-018	51	1	1	1	2
147	1	Cementer, Hand	788.687-030	54	1	1	1	2
148	1	Eyeglass-Lens Cutter	716.682-010	50	1	1	2	2
149	1	Caser	715.684-054	60	1	1	1	2
150	1	Put-in-Beat Adjuster	715.684-174	59	1	1	1	2
151	1	Watch Repairer	715.281-010	63	1	1	1	2
152	1	Burrer, Machine	603.685-046	56	1	1	1	2
153	1	Loom Fixer	683.260-018	50	1	1	1	2
154	1	Loom Fixer	683.260-018	156	3	1	1	2
154	1	Line Repairer	821.361-026	59	1	1	1	2
154	2	Line Repairer	821.361-026	180	2	1	1	1
154	3	Line Repairer	821.361-026	180	4	2	8	1
155	1	Electronics Assembler	726.684-018	59	1	1	2	2
156	1	Medical Technologist	078.361-014	113	1	1	1	2
156	2	Medical Technologist	078.361-014	146	3	1	1	2
157	1	Maintenance Mechanic	638.281-014	103	1	1	1	2
158	1	Manager, Industrial Organization	189.117-022	70	1	2	8	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
159	1	Stitcher, Standard Machine	690.682-082	113	1	1	2	2
160	1	Cable Maker	728.684-010	70	1	1	2	2
160	2	Cable Maker	728.684-010	30	1	1	1	1
161	1	Mounter, Automatic	976.685-022	50	1	1	2	2
161	2	Mounter, Automatic	976.685-022	30	3	1	1	2
162	1	Mail Handler	209.687-014	80	1	2	4	2
163	1	Monotype-Keyboard Operator	650.582-014	52	1	1	1	2
164	1	Counter Attendant, Lunch Room	311.477-014	50	2	1	2	2
165	1	Packager, Hand	920.587-018	77	1	1	1	2
165	2	Packager, Hand	920.587-018	102	3	1	1	2
165	3	Packager, Hand	920.587-018	254	3	1	4	2
166	1	Die-Casting-Machine Operator	514.685-018	50	1	1	1	2
167	1	Salesperson, Parts	279.357-062	53	1	1	1	2
168	1	Yarn-Texturing-Machine Operator	589.685-102	56	1	1	1	1
168	2	Yarn-Texturing-Machine Operator	589.685-102	111	3	1	1	2
169	1	Coil Winder	724.684-026	53	1	1	1	1
170	1	Forming-Machine Operator	575.382-014	51	1	1	1	1
170	2	Forming-Machine Upkeep Mechanic	575.380-010	313	2	1	1	2
171	1	Glazier	865.381-010	55	1	1	1	2
172	1	Folding-Machine Operator	653.382-010	50	1	1	1	2
173	1	Electronics Assembler	726.684-018	63	1	1	1	1
174	1	Case Finisher	739.684-034	50	1	1	1	1
175	1	Caseworker	195.107-010	106	1	1	1	2
176	1	Stereotyper	974.382-014	50	1	1	1	2
177	1	Millwright	638.281-018	55	1	1	1	2
177	2	Millwright	638.281-018	40	1	1	1	2
177	3	Millwright	638.281-018	302	3	1	1	2
178	1	Selector	579.687-030	51	1	1	1	1
179	1	Waiter/Waitress, Informal	311.477-030	60	2	1	1	2
179	2	Waiter/Waitress, Informal	311.477-030	239	2	1	1	2
180	1	Keypunch Operator	203.582-010	353	1	1	1	2
181	1	Eelctrical-Appliance Servicer	827.261-010	53	2	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
182	1	Laborer, Stores	922.687-058	51	2	1	2	2
182	2	Laborer, Stores	922.687-058	127	3	1	1	2
182	4	Laborer, Stores	922.687-058	55	2	1	1	2
183	1	Manufacturer's Service Representative	638.261-018	50	1	1	1	2
184	1	Bookkeeper I	210.382-014	66	1	2	7	2
185	1	Carpet Layer	864.381-010	54	1	1	1	2
185	2	Carpet Layer	864.381-010	47	1	1	1	2
186	1	Claim Adjuster	241.217-010	85	1	1	1	2
186	2	Claim Adjuster	241.217-010	21	1	1	1	2
187	1	Venetian-Blind Assembler	739.684-166	66	1	1	2	2
187	2	Venetian-Blind Assembler	739.684-166	106	3	2	1	2
188	1	Inspector, Motor Vehicles	168.267-058	98	1	1	1	2
189	1	Maintenance Mechanic, Telephone	822.281-018	53	1	1	2	2
190	1	Looper	689.682-010	52	1	1	1	2
191	1	Assembler I	723.684-014	55	1	1	1	2
192	1	Selector	579.687-030	58	1	1	1	2
193	1	Packager, Hand	920.587-018	75	2	1	2	2
194	1	Assembler, Metal Furniture	709.684-014	52	1	1	3	2
195	1	Driver, Sales Route	292.353-010	61	1	1	1	2
196	1	Driver, Sales Route	292.353-010	110	1	1	1	2
197	1	Driver, Sales Route	292.353-010	52	2	1	2	2
198	1	Automobile-Service-Station Attendant	915.467-010	52	1	1	1	2
199	1	Audit Clerk	210.382-010	53	1	1	1	2
199	2	Audit Clerk	210.382-010	300	3	1	1	2
200	1	Ticket Agent	238.367-026	55	1	1	5	2
200	2	Ticket Agent	238.367-026	310	3	1	1	2
200	3	Ticket Agent	238.367-026	210	2	1	1	2
201	1	Construction-Equipment Mechanic	620.261-022	50	1	1	1	2
201	2	Construction-Equipment Mechanic	620.261-022	233	3	1	1	2
202	1	Dental Assistant	079.371-010	53	1	2	7	1

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
202	2	Dental Assistant	079.371-010	85	1	2	7	1
202	3	Dental Assistant	079.371-010	121	1	2	7	1
202	4	Dental Assistant	079.371-010	31	1	1	1	2
203	1	Painter	840.381-010	70	2	2	7	1
203	2	Painter	840.381-010	83	2	2	7	1
203	3	Painter	840.381-010	49	2	2	8	1
204	2	Director, Food Services	187.167-026	87	1	1	1	2
205	1	Job Analyst	166.267-026	59	1	1	1	1
206	1	Telephone-Answering-Service Operator	235.662-026	56	1	1	1	2
207	1	Welder, Arc	810.384-014	50	1	1	1	2
207	2	Welder, Arc	810.384-014	162	3	1	1	2
208	1	Gas-Appliance Servicer	637.261-018	51	1	1	2	2
208	2	Gas-Appliance Servicer	637.261-018	221	3	1	1	2
209	1	Counselor, Camp	159.124-010	65	1	1	1	2
209	2	Counselor, Camp	159.124-010	34	1	1	1	2
209	3	Counselor, Camp	159.124-010	56	1	1	1	2
209	1	Counselor, Camp	159.124-010	65	1	1	1	2
209	2	Counselor, Camp	159.124-010	34	1	1	1	2
209	3	Counselor, Camp	159.124-010	56	1	1	1	2
210	1	Sales Representative	274.357-022	113	1	1	1	2
211	1	Welder, Arc	810.384-014	49	2	1	4	1
211	2	Welder, Arc	810.384-014	461	3	1	1	2
211	3	Welder, Arc	810.384-014	81	3	1	-	2
212	1	Tool-and-Die Maker	601.280-046	63	1	1	1	2
212	2	Tool-and-Die Maker	601.280-046	59	1	2	8	2
212	3	Tool-and-Die Maker	601.280-046	124	1	1	1	2
213	1	Mathematician	020.067-014	52	1	2	8	1
214	1	Wire Drawer	614.382-014	50	1	1	1	2
214	2	Wire Drawer	614.382-014	70	3	1	1	2
215	1	Cement Mason	844.362-010	52	1	1	1	2
216	1	Braiding-Machine Operator	683.685-010	51	1	1	5	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
217	1	Proof-Machine Operator	217.382-010	243	1	1	1	2
217	2	Proof-Machine Operator	217.382-010	51	2	1	3	2
218	1	Compression-Molding-Machine Tender	556.685-022	56	1	1	2	2
218	2	Compression-Molding-Machine Tender	556.685-022	35	1	1	2	2
219	1	Electronics Assembler	726.684-018	60	2	1	1	2
220	1	Coil Winder	724.684-026	65	1	1	1	2
220	2	Coil Winder	724.684-026	186	2	1	1	2
221	1	Extruder Operator	557.382-010	57	1	1	1	2
222	1	Process Artist	972.281-010	66	1	1	1	2
223	1	Photographer, Lithographic	972.382-014	55	1	1	1	2
224	1	Lithographic Plate Maker	972.381-010	53	2	1	1	2
225	1	Manager, Retail Store	185.167-046	61	1	1	1	2
225	4	Yarn-Texturing-Machine Operator	589.685-102	82	2	1	1	2
226	1	Making-Line Worker	753.687-026	50	1	1	1	2
227	1	Cold Winder	724.684-026	50	2	1	2	2
228	1	Injection-Molding-Machine Tender	556.685-038	155	1	1	1	2
228	2	Injection-Molding-Machine Tender	556.685-038	74	2	1	2	2
229	1	Electronics Assembler	726.684-018	52	1	1	1	2
230	1	Electronics Inspector	726.381-010	51	1	1	1	2
231	1	Surgical Technician	079.374-022	50	1	1	1	2
231	2	Surgical Technician	079.374-022	250	3	1	1	2
231	3	Surgical Technician	079.374-022	52	2	1	1	2
232	1	Exterminator	389.684-010	55	1	1	1	2
233	1	Machine Operator II	619.685-062	50	1	1	1	2
234	1	Cash-Register Service	633.281-010	62	1	2	7	1
234	2	Cash-Register Service	633.281-010	209	3	1	1	2
234	3	Cash-Register Servicer	633.281-010	55	2	1	1	2
235	1	Metal Fabricator	619.360-014	51	1	1	1	2
235	2	Metal Fabricator	619.360-014	173	3	1	1	2
236	1	Police Officer I	375.263-014	121	1	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
236	2	Police Officer I	375.263-014	166	2	1	1	2
237	1	Medical Assistant	079.367-010	49	1	1	1	2
237	2	Medical Assistant	079.367.010	51	1	2	8	2
238	1	Cook	313.361-014	160	1	2	8	2
238	2	Cook	313.361-014	114	3	1	1	2
239	1	Ward Clerk	245.362-014	185	1	1	1	2
239	2	Ward Clerk	245.362-014	50	2	1	1	2
240	1	Plasterer	842.361-018	66	1	2	7	2
241	1	Roofer	866.381-010	50	1	1	7	2
241	1	Roofer	866.381-010	50	4	2	1	2
242	1	Packager, Machine	920.685-078	53	1	1	1	2
243	1	Forester	040.061-034	80	2	1	1	2
244	1	Plug Wirer	726.687-014	56	1	1	1	2
245	1	Electronics Assembler	726.684-018	51	1	1	1	2
246	1	Finisher, Hand	754.684-030	50	1	1	1	2
247	1	Laborer, General	509.686-010	64	1	1	1	2
248	1	Battey Loader	683.686-010	48	1	1	1	2
249	1	Sales Agent, Real Estate	250.357-018	52	1	1	1	2
250	1	Autoclave Operator I	553.382-010	52	1	1	1	2
251	1	Dispatcher, Motor Vehicle	249.167-014	50	1	1	1	2
252	1	Barber	330.371-010	95	1	1	1	1
252	2	Barber	330.371-010	51	2	2	7	1
252	3	Barber	330.371-010	61	2	2	7	1
253	1	Assembler	710.681-010	50	1	1	1	2
254	1	Sociologist	054.067-014	51	2	2	8	1
255	1	Cleaner, Commercial	381.687-014	83	2	1	1	2
256	1	Air-Traffic Coordinator	193.162-010	152	1	1	2	2
258	1	Pacckager, Hand	920.587-018	50	1	1	1	2
259	1	Teller	211.362-018	291	1	1	1	2
259	2	Teller	211.362-018	50	2	1	1	2
259	3	Teller	211.362-018	50	2	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
260	1	Flatwork Finisher	363.686-010	75	1	1	1	2
260	2	Flatwork Finisher	363.686-010	74	2	1	1	2
261	1	Machine Operator, Ceramics	679.685-010	51	1	1	1	2
262	1	Boilermaker I	805.261-014	81	1	1	1	2
262	2	Boilermaker I	805.261-014	376	3	2	8	1
263	1	Fish and Game Warden	379.167-010	80	1	1	1	2
264	1	Fish Cleaner	525.684-030	51	1	1	1	2
265	1	Laborer, Shellfish Processing	529.686-058	51	1	1	3	2
266	1	Drafter, Civil	005.281-010	326	1	1	1	2
266	2	Drafter, Mechanical	007.281-010	52	2	1	1	2
266	3	Drafter, Mechanical	007.281-010	40	2	2	7	2
266	4	Drafter, Mechanical	007.281-010	53	2	2	8	1
266	5	Drafter, Mechanical	007.281-010	63	2	2	8	2
266	5	Drafter, Civil	005.281-010	232	2	1	1	2
266	6	Drafter, Civil	005.281-010	60	2	1	1	2
266	7	Drafter, Mechanical	007.281-010	130	2	2	7	2
266	8	Drafter, Architectural	001.261-010	52	2	2	8	2
266	9	Drafter, Civil	005.281-010	63	2	2	8	2
267	1	Tire Builder, Automobile	750.384-010	127	1	1	1	2
267	2	Tire Builder, Automobile	750.384-010	239	3	1	1	2
269	1	Cannery Worker	529.686-014	61	1	1	2	2
270	1	Nurse, Licensed Practical	079.374-014	204	1	1	1	2
270	2	Nurse, Licensed Practical	079.374-014	119	2	2	8	1
270	3	Nurse, Licensed Practical	079.374-014	111	2	2	8	1
270	4	Nurse, Licensed Practical	079.374-014	94	2	1	2	1
271	1	Nurse, General Duty	075.374-014	80	1	2	8	1
271	2	Nurse, General Duty	075.374-013	94	2	2	8	2
271	3	Nurse, General Duty	075.374-014	71	2	2	1	1
271	4	Nurse, General Duty	075.374-014	50	2	1	1	2
272	1	Occupational Therapy Assistant	763.364-010	65	1	2	1	1
272	1	Occupational Therapy Assistant	763.364-010	65	4	2	8	1
273	1	Oil-Burner-Servicer-and-Installer	862.281-018	77	1	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
272	1	Occupational Therapy Assistant	763.364-010	65	1	2	1	1
272	1	Occupational Therapy Assistant	763.364-010	65	4	2	8	1
273	1	Oil-Burner-Servicer-and-Installer	862.281-018	77	1	1	1	2
274	1	Food-Service Worker, Hospital	355.677-010	100	1	1	1	2
274	2	Food-Service Worker, Hospital	355.677-010	170	3	1	1	2
275	1	Janitor	382.664-010	87	2	1	1	2
276	1	Salesperson, General Merchandise	279.357-054	171	1	1	1	2
276	2	Salesperson, General Merchandise	279.357-054	90	3	1	1	2
276	3	Salesperson, General Merchandise	279.357-054	41	2	1	2	2
276	4	Salesperson, General Merchandise	279.357-054	55	2	1	1	2
277	1	Process Inspecter	736.381-018	57	1	1	1	2
278	1	Sales Clerk	290.477-014	59	2	1	1	2
278	2	Sales Clerk	290.477-014	163	3	1	1	2
279	1	Processor, Solid Propellant	590.464-010	59	1	1	1	2
280	1	Structural-Steel Worker	801.361-014	77	1	1	1	2
280	2	Structural-Steel Worker	801.361-014	391	3	1	1	2
281	1	Electronics Assembler	726.684-018	53	1	1	1	2
281	2	Electronics Assembler	726.684-018	56	3	1	1	2
282	1	Nurse Aide	355.674-014	136	1	1	1	-
282	2	Nurse Aide	355.674-014	199	2	1	1	2
282	4	Nurse Aide	355.674-014	155	2	1	1	2
283	1	Biologist	041.061-030	50	1	2	8	2
284	1	Pinsetter Mechanic, Automatic	638.261-022	83	1	2	7	2
285	1	Dental-Laboratory Technician	712.381-018	56	1	1	1	2
285	2	Dental-Laboratory Technician	712.381-018	54	2	1	1	2
285	3	Dental-Laboratory Technician	712.381-018	54	2	1	1	2
286	1	Computer Operator	213.362-010	77	1	1	1	2
286	2	Computer Operator	213.362-010	213	3	1	1	2
287	1	Psychiatric Aide	355.377-014	241	1	1	1	2
287	2	Psychiatric Aide	355.377-014	334	3	1	1	2
288	1	Trailer Assembler	806.381-058	50	1	1	1	2
289	1	Stitcher, Standard Machine	690.682-082	51	1	1	1	1
290	1	Toy Assembler	731.687-034	75	1	1	1	1

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
291	1	Classifier	361.687-014	52	1	1	1	2
292	1	Linen-Supply Load-Builder	920.687-118	50	2	1	1	2
293	1	Electronics Technician	003.161-014	97	1	2	8	1
293	2	Electronics Technician	003.161-014	402	3	1	1	2
294	1	Sorter, Agricultural Produce	529.687-186	53	1	1	1	1
295	1	Balling-Machine Operator	681.685-014	66	1	1	1	2
296	1	Bakery Worker	929.686-010	57	1	1	1	2
297	1	Typesetter-Perforator Operator	203.582-062	183	1	1	1	2
298	1	Manager, Automobile Service Station	185.167-014	80	1	1	1	2
299	1	Librarian	100.127-014	230	1	1	1	2
299	2	Librarian	100.127-014	51	1	1	1	2
299	3	Librarian	100.127-014	85	1	2	8	1
300	1	Cylinder-Die-Machine Operator	649.682-014	77	1	1	1	2
301	1	Packager, Machine	920.685-078	56	1	1	1	2
302	1	Sorter, Agricultural Produce	529.687-186	74	1	1	1	2
303	1	Packager, Hand	920.587-018	48	1	1	1	2
304	1	Electronics Assembler	726.684-018	50	1	1	1	2
305	1	Counter Attendant, Cafeteria	311.677-014	52	1	1	1	2
306	1	Carton-Forming-Machine Operator	641.685-022	53	1	1	1	2
307	1	Die Maker	739.381-018	58	1	1	1	2
308	1	Insulating-Machine Operator	691.682-018	54	1	2	1	1
309	1	Proof-Machine Operator	217.382-010	172	1	1	1	2
309	2	Proof-Machine Operator	217.382-010	50	2	1	3	2
310	1	Electronics Assembler	726.684-018	185	1	1	1	2
310	2	Electronics Assembler	726.684-018	147	2	1	1	1
310	3	Electronics Assembler	726.684-018	57	2	1	1	2
311	1	Fountain Server	319.474-010	100	2	1	1	2
312	1	Substation Operator	952.362-026	102	2	1	1	2
313	1	Automobile-Body Repairer	807.381-010	56	1	2	7	1
313	2	Automobile-Body Repairer	807.381-010	63	1	2	7	1
313	3	Automobile-Body Repairer	807.381-010	107	3	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
314	1	Programmer, Business	020.162-014	102	1	1	1	2
314	2	Programmer, Business	020.162-014	93	1	1	1	2
314	3	Programmer, Business	020.162-014	62	1	1	1	2
315	1	Systems Analyst, Electronic Data Processing	012.167-066	55	1	1	1	2
316	1	Programmer, Engineering and Scientific	021.167-022	72	1	1	1	2
316	2	Programmer, Engineering and Scientific	021.167-022	59	1	1	1	2
317	1	Electronics Assembler	726.684-018	58	1	1	1	2
318	1	Instrument Mechanic	710.281-026	65	1	2	8	1
318	2	Instrument Mechanic	710.281-026	58	1	2	7	1
318	3	Instrument Mechanic	710.281-026	200	3	1	1	2
319	1	Sewing-Machine Repairer	639.281-018	73	1	1	1	2
320	1	Credit Analyst	191.267-014	59	2	1	1	2
321	1	Mechanical-Engineering Technician	007.161-026	55	1	2	8	2
322	1	Electrical Technician	003.161-010	63	1	2	8	2
323	1	Industrial Engineering Technician	012.267-010	52	1	2	8	2
324	1	Metallurgical Technician	011.261-010	59	1	2	8	2
325	1	Chemical-Engineering Technician	082.261-010	55	2	2	8	2
326	1	Respiratory Therapist	079.361-010	81	1	1	1	2
326	2	Respiratory Therapist	079.361-010	496	2	1	1	2
327	1	Psychiatric Aide	355.377-014	73	2	2	8	1
327	2	Psychiatric Aide	355.377-014	384	2	1	1	2
328	1	Rotary-Driller Helper	930.684-026	53	1	2	1	1
329	1	Administrative Clerk	219.362-010	407	1	1	1	2
329	2	Administrative Clerk	219.362-010	198	2	1	1	2
329	3	Administrative Clerk	219.362-010	103	2	1	1	2
329	4	Administrative Clerk	219.362-010	89	2	1	1	1
329	5	Administrative Clerk	219.362-010	89	2	1	4	1
330	1	Chemical Operator III	559.382-018	63	1	1	1	1
330	2	Chemical Operator III	559.382-018	50	1	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
330	3	Chemical operator III	559.382-018	62	3	1	1	2
331	1	Small-Engine Mechanic	625.281-034	75	1	2	7	1
331	9	Farm-Equipment Mechanic	624.281-010	50	2	1	1	2
332	1	Hotel Clerk	238.362-010	54	2	1	1	2
332	2	Hotel Clerk	238.362-010	406	3	1	1	2
333	1	Experimental Assembler	739.381-026	61	1	1	2	2
334	1	Precision-Lens Grinder	716.382-018	52	1	1	1	2
334	2	Precision-Lens Grinder	716-382-018	123	3	1	1	2
335	1	Extruding-Machine operator	691.382-010	142	1	1	1	2
335	2	Extruding-Machine operator	691.382-010	84	2	1	1	2
336	1	Knitting-Machine Operator	685.665-014	53	1	1	1	2
336	2	Knitting-Machine Operator	685.665-014	209	3	1	1	2
337	1	Doffer	689.686-022	57	1	1	1	2
338	1	Card Tender	680.685-018	53	1	1	1	2
339	1	Chief of Party	018.167-010	62	1	1	1	2
340	1	Stationary Engineer	950.382-026	120	2	1	1	2
341	1	Packager, Machine	920.685-078	55	1	1	1	2
342	1	Water-Treatment-Plant Operator	954.382-010	61	2	2	8	1
342	2	Water-Treatment-Plant Operator	954.382-010	57	2	1	1	1
342	3	Water-Treatment-Plant Operator	954.382-010	222	3	1	1	2
343	1	Operating Engineer	859.683-010	92	1	1	1	2
343	2	Operating Engineer	859.683-010	270	1	1	1	2
344	1	Lay-Out Worker I	809.281-010	50	1	2	7	1
345	1	Glass Blower, Laboratory Apparatus	772.281-010	50	1	3	8	1
346	1	Hand Sewer, Shoes	788.684-054	64	1	1	1	1
346	2	Hand Sewer, Shoes	788.684-054	39	1	1	1	1
346	3	Hand Sewer, Shoes	788.684-054	53	1	1	1	1
347	1	Physical Therapist	076.121-014	122	1	2	8	1
347	2	Physical Therapist	076.121-014	122	4	2	7	1
347	3	Physical Therapist	076.121-014	88	1	1	1	2
347	4	Physical Therapist	076.121-014	102	1	2	8	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
348	1	Correction Officer	372.667-018	51	2	1	1	2
348	2	Correction Officer	372.667-018	850	3	1	1	2
349	1	Meat Cutter	316.684-018	50	1	1	1	2
349	2	Meat Cutter	316.684-018	49	1	1	1	2
349	3	Meat Cutter	316.684-018	70	1	1	1	2
350	1	Maintenance Repairer, Building	899.381-010	86	1	2	7	1
352	1	Occupational Therapist	076.121-010	83	1	2	1	1
352	1	Occupational Therapist	076.121-010	83	4	2	8	1
352	2	Occupational Therapist	076.121-010	75	1	1	1	2
353	1	Supervisor, Electronics	726.130-010	72	1	1	1	2
354	1	Web-Press Operator	651.362-030	53	1	1	1	2
355	1	Inspector, Mechanical and Electrical	710.381-038	50	1	1	1	2
356	1	Second Helper	512.684-010	55	1	1	1	1
357	1	Stationary Engineer	950.382-026	50	2	1	1	2
358	1	Offset-Duplicating-Machine Operator	207.682-018	86	1	1	1	2
358	2	Offset-Duplicating-Machine Operator	207.682-018	81	2	1	1	2
359	1	Assembler, Hospital Supplies	712.687-010	53	1	1	1	2
359	2	Assembler, Hospital Supplies	712.687-010	60	1	1	1	2
360	1	Yarn Winder	681.685-154	64	1	1	1	2
360	2	Yarn Winder	681.685-154	207	3	1	1	2
361	1	Packager, Hand	920.587-018	51	1	1	1	2
363	1	Maintenance Repairer	899.281-014	53	1	1	1	1
363	4	Maintenance Repairer	899.281-014	234	1	1	1	2
365	1	Foundry Worker, General	519.687-022	71	1	1	1	1
365	2	Foundry Worker, General	519.687-022	73	1	1	1	1
366	1	Molder	518.361-010	54	1	1	1	1
367	1	Guide Setter	613.361-010	70	1	1	1	1
368	1	Straightening-Press Operator	617.482-026	82	1	1	1	1
368	2	Straightening-Press Operator	617.482-026	86	1	1	1	1

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
369	1	Printer-Slotter Operator	659.662-010	70	1	1	1	2
370	1	Multi-Operation-Forming Machine Setter	616.260-014	141	1	1	1	2
370	2	Multi-Operation-Forming Machine Setter	616.260-014	66	2	1	1	2
370	4	Multi-Operation-Forming Machine Setter	616.260-014	138	2	1	1	2
371	1	Flexographic-Press Operator	651.682-010	75	2	1	1	2
372	1	Packager, Machine	920.685-078	69	1	1	1	2
373	1	Surveyor Assistant, Instruments	018.167-034	57	2	2	8	1
374	1	Sorter, Agricultural Produce	529.687-186	133	1	1	1	2
375	1	Lather	842.361-010	64	1	1	1	2
375	2	Lather	842.361-010	114	3	1	1	2
376	1	Mailing-Machine Operator	208.462-010	51	1	1	3	1
376	2	Mailing-Machine Operator	208.462-010	128	3	1	1	2
378	1	Metallurgical Technician	011.261-010	55	1	2	8	1
379	1	Transportation Agent	912.367-014	50	1	1	1	2
379	2	Transportation Agent	912.367-014	131	2	1	1	2
380	1	Automobile Mechanic	620.261-010	54	1	2	8	1
381	1	Electronics Assembler	726.684-018	100	1	1	1	2
381	2	Assembler, Small Products	739.687-030	50	2	1	1	2
383	1	Assembler, Small Products	739.687-030	61	1	1	1	1
384	1	Medical-Laboratory Technician	078.381-014	81	1	2	8	2
384	2	Medical-Laboratory Technician	078.381-014	177	3	1	1	2
385	1	Manager, Retail Store	185.167-046	51	1	2	8	1
386	1	Electronics Inspector	726.684-022	52	1	1	1	2
387	1	Pharmacy Helper	074.387-010	59	2	2	1	1
387	2	Pharmacy Helper	074.387-010	59	4	2	8	1
388	1	Residence Supervisor	187.167-186	56	1	1	1	1
389	1	Bench Carpenter	760.684-010	48	1	2	7	1
390	1	Log Scaler	455.487-010	75	2	1	1	2
391	1	Radiographer	199.361-010	48	2	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
392	1	Tube Assembler, Electron	725.384-010	60	1	1	1	2
393	1	Hospital-Admitting Clerk	205.362-018	59	1	2	1	1
393	2	Hospital-Admitting Clerk	205.362-018	178	3	1	1	2
394	1	Envelope-Folding-Machine Adjustor	641.680-010	44	1	1	1	2
394	2	Envelope-Folding-Machine Adjustor	641.680-010	245	3	1	1	2
395	1	Corrugator Operator	641.562-010	70	1	1	1	2
396	1	Blow-Molding-Machine Operator	556.682-010	58	1	1	1	2
396	2	Blow-Molding-Machine Operator	556.682-010	103	3	1	1	2
397	1	Coin Collector	292.483-010	57	1	1	1	2
398	1	Teacher Aide II	249.367-074	266	1	1	1	2
398	2	Teacher Aide II	249.367-074	78	2	1	1	2
399	1	Teacher Aide II	249.367-074	93	1	2	8	1
400	1	Packager, Hand	920.587-018	59	1	1	1	1
401	1	Heat Treater I	504.382-014	78	1	1	1	2
402	1	Painter, Transportation Equipment	845.381-014	55	1	1	1	2
402	2	Painter, Transportation Equipment	845.381-014	54	3	1	1	2
403	1	Coin-Machine-Service Repairer	639.381-014	49	1	1	1	2
404	1	Inspector, Assemblies and Installations	806.281-022	81	1	2	8	1
405	1	Levers-Lace Machine Operator	683.682-026	54	1	1	2	2
406	1	Machine Setter	616.360-022	52	1	1	1	2
407	1	Quality-Control Technician	529.387-030	63	1	1	1	2
407	2	Quality-Control Technician	529.387-030	152	3	1	1	2
409	1	Presser, Machine	363.682-018	50	1	1	1	2
410	1	Coding Clerk	209.387-010	64	1	1	1	2
412	1	Tooth Inspector	712.687-038	55	1	1	1	2
413	1	Environmental-Control-System Installer-Servicer	637.261-014	66	1	2	8	2
414	1	Assembler, Electrical Accessories	729.687-010	191	1	1	1	2
415	2	Electronics Mechanic	828.281-010	55	2	2	1	1
415	1	Electronics Mechanic	828.281-010	272	1	2	8	1
417	1	Classified-Ad Clerk	247.367-010	60	1	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
417	2	Classified-Ad Clerk	247.367-010	130	3	1	1	2
418	1	Dental Ceramist Assistant	712.664-020	66	1	1	1	2
419	1	Construction Worker	869.664-014	67	1	1	2	2
420	1	Manager, Department	299.137-010	59	1	1	1	2
422	1	Radiation Monitor	199.167-010	55	1	1	1	2
423	1	Diesel Mechanic	625.281-010	52	1	2	8	2
423	2	Diesel Mechanic	625.281-010	265	3	1	1	2
424	1	Polisher	700.687-058	57	1	1	1	2
425	1	Manager, Food Service	187.167-106	76	1	1	1	2
427	1	Spooler Operator, Automatic	681.686-018	52	1	1	1	2
427	2	Spooler Operator, Automatic	681.686-018	126	3	1	1	2
428	1	Fourdrinier-Machine Tender	539.362-014	84	1	1	1	2
429	1	Rewinder Operator	640.685-058	87	1	1	1	2
430	1	Finisher, Denture	712.681-018	100	1	1	1	2
431	1	Tool Programmer, Numerical Control	007.167-018	57	1	1	1	2
432	1	Construction Worker	869.664-014	50	1	1	1	2
433	1	Airplane-Flight Attendant	352.367-010	76	1	1	1	1
434	1	Packager, Machine	920.685-078	85	1	1	1	2
434	2	Packager, Machine	920.685-078	193	3	1	1	2
435	1	Illustrator	141.061-022	52	1	2	8	2
436	1	Food-Service Worker, Hospital	355.677-010	49	1	1	1	1
436	1	Food-Service Worker, Hospital	355.677-010	127	3	1	1	2
437	1	Parking Enforcement Officer	375.587-010	56	2	1	1	2
438	1	Forester Aide	452.364-010	78	2	2	1	1
439	1	Maintenance Mechanic	638.281-014	55	1	1	1	2
439	2	Maintenance Mechanic	638.281-014	437	3	1	1	2
440	1	Food-Service Supervisor	319.137-010	50	2	2	8	2
441	1	Multi-Operation-Forming Machine Operator	616.685-042	49	1	1	1	2
442	1	Warp-Knitting-Machine Operator	685.665-018	51	1	1	1	2
443	1	Rubber-Goods Inspector Tester	759.584-010	50	1	1	1	1

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
444	1	Photograph Finisher	976.487-010	59	1	1	1	2
445	1	Machinery Erector	638.261-014	55	1	1	1	2
446	1	Engineer	197.130-010	64	2	2	8	2
446	1	Engineer	197.130-010	64	2	2	8	2
447	1	Welder, Production Line	819.684-010	116	1	1	1	2
447	2	Welder, Production Line	819.684-010	177	3	1	1	2
448	1	Model Maker	693.361-010	62	1	2	7	1
449	1	Cook, Short Order I	313.361-022	46	1	2	7	1
450	1	Programmer, Detail	219.367-026	60	2	2	7	1
451	1	Counselor	045.107-010	53	1	1	1	2
452	1	Twister Tender	681.685-130	61	1	1	1	1
453	1	Screw-Machine Set-Up Operator	604.380-022	53	1	1	1	2
454	1	Material Handler	929.687-030	56	1	1	1	1
455	1	Construction-Equipment Mechanic	620.261-022	61	1	2	7	1
455	1	Construction-Equipment Mechanic	620.261-022	61	4	2	8	1
456	1	Assembler, Small Products	739.687-030	60	1	2	1	1
456	2	Assembler, Small Products	739.687-030	183	3	1	1	2
457	1	Assembler, Oil Filters	739.687-026	50	1	1	1	1
458	1	Hose Maker	752.684-030	57	1	1	3	2
459	1	V-Belt Coverer	690.685-450	69	1	1	1	2
460	1	Radio Mechanic	823.261-018	50	1	1	1	2
461	1	Assembler and Wirer, Industrial Equipment	826.361-010	74	1	1	1	2
462	1	Electronics Mechanic	828.281-010	55	1	1	1	2
463	1	Electronics Mechanic	828.281-010	50	1	1	1	2
464	1	Taper	842.664-010	50	1	1	1	2
464	1	Taper	842.664-010	50	4	1	1	2
465	1	Covering-Machine Operator	681.685-038	65	1	1	1	2
466	1	Material Handler	929.687-030	78	1	1	1	2
467	1	Electronics Assembler	726.684-018	276	1	1	1	2
468	1	Cigarette Inspector	429.567-010	64	1	1	1	2
469	1	Chemical Operator II	558.585-014	246	1	1	1	2
470	1	Weaver	769.684-050	81	1	1	5	2
471	1	Electronics Inspector	726.684-022	644	2	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
472	1	Appliance Assembler, Line	827.684-010	107	2	1	6	2
473	1	Gambling Dealer	343.467-018	933	2	1	-	1
473	2	Gambling Dealer	343.467-018	123	2	1	-	1
474	1	Customer-Service Representative	239.367-010	278	2	1	1	2
475	1	Meter Reader	209.567-010	286	2	1	-	2
700	1	Stitcher, Standard Machine	690.682-082	58	2	1	3	2
700	2	Stitcher, Standard Machine	690.682-082	75	2	1	3	2
700	3	Sewing-Machine Operator	787.682-046	73	3	1	6	1
700	4	Glove Sewer	784.682-010	208	3	1	1	2
801	1	Central-Supply Worker	381.687-010	431	3	1	1	2
802	1	Data Typist	203.582-022	174	3	1	1	2
803	1	Etched-Circuit Processor	590.684-018	258	3	1	1	2
804	1	Cytotechnologist	078.281-010	131	3	1	1	2
805	1	Assembler	723.684-010	91	3	1	1	2
806	1	Machine Operator II	619.685-062	247	3	1	1	2
807	1	Supervisor	529.137-026	75	3	1	1	2
808	1	Power-Reactor Operator	952.362-022	329	3	2	8	1
811	1	Packager, Hand	920.587-018	203	3	1	1	2
812	1	Environmental-Control-System-Installer-Servicer	637.261-014	262	2	1	1	2
813	1	Pipe Fitter	862.261-010	95	2	2	-	1
813	1	Cashier II	211.462-010	420	3	1	2	1
814	1	Machinist	600.280-022	700	3	1	1	2
815	1	Machine Set-Up Operator	600.380-018	50	3	1	1	2
816	1	Mold Maker, Die-Casting	601.280-030	73	3	1	1	2
817	1	Tool-and-Die Maker	601.280-046	389	3	1	1	2
818	1	Gear-Cutting-Machine Set-Up Operator	602.380-010	33	3	1	1	2
819	1	Grinder, Gear	602.382-034	29	3	1	1	2
820	1	Grinder Operator, Tool	603.280-018	221	3	1	1	2
821	1	Engine-Lathe Set-Up Operator	604.280-010	93	3	1	1	2
822	1	Turret-Lathe Set-Up Operator	604.380-026	291	3	1	1	2
823	1	Profiling-Machine Set-Up Operator	605.280-014	111	3	1	1	2

SATB No. or Study No.	Sample	DOT Title	DOT Code	N	Category[a]	Criterion Type[b]	Criterion Measure[c]	Type of Study[d]
824	1	Planer Set-Up Operator, Tool	605.282-014	27	3	1	1	2
825	1	Boring-Mill Set-Up Operator, Jig	606.280-010	63	3	1	1	2
826	1	Drill-Press Set-Up Operator, Multiple Spindle	606.380-010	87	3	1	1	2
827	1	Lathe Operator, Numerical Control	604.362-010	62	3	1	1	2
828	1	Milling-Machine Operator	605.380-010	140	3	1	1	2
829	1	Numerical-Control-Machine Operator	609.662-010	93	3	1	1	2
830	1	Punch-Press Operator I	615.482-034	72	3	1	1	2
831	1	Punch-Press Operator III	615.682-014	106	3	1	1	2
832	1	Punch-Press Operator II	615.685-030	64	3	1	1	2
833	1	Punch-Press Setter	619.380-014	29	3	1	1	2
834	1	Printer-Slotter Operator	659.662-010	142	3	1	1	2
835	1	Bus Driver	913.463-010	323	3	1	1	2
874	1	Transformer Tester	724.281-010	34	2	1	1	2
997	1	Psychologist, Social	045.067-014	66	2	2	8	2

a Category
1 = Hunter (old)
2 = Published
3 = Unpublished
4 = Duplicate

b Criterion Type
1 = On-the-job proficiency
2 = Training success

c Criterion Measure
1 = Supervisory ratings
2 = Supervisory rankings
3 = Production data
4 = Work sample
5 = Composite of Multi-dimension ratings
6 = Mixed standard
7 = Training ratings
8 = Course grades or exam grades

d Type of Study
1 = Predictive
2 = Concurrent

APPENDIX 2

Results for Total Sample
(Selected Tables from Hunter (1983))

Table 1. The Distribution of Observed and True Validity for Three General Abilities (GVN = Cognitive Ability, SPQ = Perceptual Ability, KFM = Psychomotor Ability) Across the Entire Job Spectrum

Table 1a. The Distribution of Observed Validity Coefficients Across All Jobs

	GVN	SPQ	KFM
Mean observed correlation	.23	.21	.18
Uncorrected standard deviation	.12	.12	.14
Observed 10th percentile	.07	.05	.00
Observed 90th percentile	.39	.37	.37

Table 1b. The Distribution of Observed Validity Coefficients Had There Been No Sampling Error, i.e., If All Studies Had Been Done With Samples of 2,000 or More

	GVN	SPQ	KFM
Mean observed correlation	.23	.21	.18
Corrected standard deviation	.08	.08	.11
Corrected 10th percentile	.12	.10	.04
Corrected 90th percentile	.34	.31	.32

Table 1c. The Distribution of True Validity Across All Jobs; i.e., the Distribution of Validity Had Job Performance Been Perfectly Measnured and Had the Studies Been Done on Applicant Populations

	GVN	SPQ	KFM
Mean true validity	.36	.31	.25
Standard deviation of true validity	.12	.11	.15
10th percentile of true validity	.21	.16	.06
90th percentile of true validity	.51	.45	.44

Table 4. Mean Weighted Observed Validity for Original and Modified Data Categories; GVN = Cognitive Ability, SPQ = Perceptual Ability, KFM = Psychomotor Ability.

Table 4a. Mean Weighted Observed Validity for Original Data Categories.

		Observed Validity			
Name	Number	GVN	SPQ	KFM	N
Synthesizing	0	.31	.18	.10	679
Coordinating	1	.29	.21	.15	4,481
Analyzing	2	.25	.21	.14	13,684
Compiling	3	.25	.21	.16	24,197
Computing	4	.21	.20	.21	4,421
Copying	5	.22	.21	.19	4,015
Comparing	6	.19	.21	.23	22,710

Table 4b. Mean Weighted Observed Validilty for Modified Data Categories

		Observed Validity			
Name	Number	GVN	SPQ	KFM	N
Synthesize/Coordinate	1	.30	.21	.14	5,160
Analyze/Compile/Compute	2	.24	.21	.15	42,302
Copy/Compare	3	.20	.21	.23	26,725

Table 5 Mean Weighted Observed Validities for Original and Modified People Categories

Table 5a. Mean Weighted Observed Validity for Original People Categories

		Observed Validity			
Name	Number	GVN	SPQ	KFM	N
Mentoring	0	.17	.16	.11	550
Negotiating	1	.39	.27	.25	233
Instructing	2	.28	.19	.19	1,303
Supervising	3	.30	.24	.15	320
Persuading	5	.23	.23	.23	798
Signalling	6	.25	.20	.15	23,749
Serving	7	.25	.21	.19	5,055
Helping	8	.21	.21	.20	42,179

Table 5b. Mean Weighted Observed Validity for Modified People Categories

			Observed Validity			
Name	Old	New	GVN	SPQ	KFM	N
Mentoring	0	0	.17	.16	.11	550
Instructing	2	1	.28	.19	.19	1,303
Supervising/Persuading	3,5	2	.25	.23	.20	1,118
Signalling/Helping	6,8	3	.23	.21	.18	65,928
Negotiating/Serving	1,7	4	.26	.21	.19	5,288

Table 6 Mean Weighted Observed Validities for Original and Modified Things Categories

Table 6a. Mean Weighted Observed Validity for Original Things Categories

		Observed Validity			
Name	Number	GVN	SPQ	KFM	N
Set Up	0	.20	.18	.10	4,778
Precision Work	1	.26	.22	.16	18,682
Operating-Controlling	2	.26	.22	.18	14,711
Driving-Operating	3	.16	.12	.07	1,890
Manipulating	4	.21	.21	.21	10,247
Tending	5	.18	.18	.23	5,161
Feeding-Offbearing	6	.15	.17	.33	1,358
Handling	7	.23	.21	.20	17,360

Table 6b. Mean Weighted Observed Validity for Modified Things Categories

			Observed Validity			
Name	Old	New	GVN	SPQ	KFM	N
Set Up	0	0	.20	.18	.10	4,778
Precision Work/Driving	1,3	1	.25	.21	.15	20,572
Controlling/Handling	2,7	2	.24	.21	.19	32,071
Manipulating/Tending	4,5	3	.20	.20	.22	15,408
Feeding-Offbearing	6	4	.15	.17	.33	1,358

Table 7 Contingency Tables Relating the Frequencies of Data, People, and Things (Modified Categories)

Table 7a. Data and People

		Data			
		1	2	3	
People	0	8			8
	1	11	4		15
	2	5	10		15
	3	43	336	295	674
	4	2	31	10	43
		69	381	305	755

Table 7b. Data and Things

		Data			
		1	2	3	
Things	0	2	36	2	40
	1	23	160	13	196
	2	41	148	134	323
	3	3	37	135	175
	4			21	21
		69	381	305	755

Table 7c. People and Things

		Things					
		0	1	2	3	4	
People	0		6	2			8
	1		5	7	3		15
	2	2	3	10			15
	3	38	173	284	158	21	674
	4		9	20	14		43
		40	196	323	175	21	755

Table 8. Correlations Between Validity and the Data, People, Things, Dimensions (Using the Modified Category Numbers)

		GVN	SPQ	KFM	D	T	P
Validity	GVN	1.00					
	SPQ	.65	1.00				
	KFM	.17	.51	1.00			
Job Dimensions:	Data	-.22	.01	.23	1.00		
	Things	-.10	-.01	.25	.46	1.00	
	People	.02	.02	.03	.25	.10	1.00

Table 10. Mean Weighted observed Validities and Beta Weights for Job Families

	Validities			Beta Weights				
Job Family	GVN	SPQ	KFM	GVN	SPQ	KFM	R	N
1	.20	.19	.11	.14	.08	.01	.21	5,229
3	.29	.21	.15	.31	-.05	.05	.30	4,849
4	.25	.21	.16	.22	.01	.07	.26	38,007
5	.20	.21	.22	.10	.05	.16	.26	24,744
2	.15	.17	.33	.06	-.06	.34	.33	1,358

Table 16. The Distribution of People and Jobs Across Levels of Job Complexity (USES Data Base) in Relationship to the Distribution of People in the National Workforce

	Job Proficiency		Training Success		
Job Family	Number of Studies	Number of Persons	Number of Studies	Number of Persons	Percent of Workforce
1	38	4,985	4	244	2.5
3	38	3,062	27	1,787	14.7
4	262	31,164	85	6,843	62.7
5	270	23,983	10	761	17.7
2	21	1,358			2.5
	629	64,552	126	9,635	100.0

Table 17. The Distribution of Range Restriction Across Levels of Job Complexity; GVN = Cognitive Ability, SPQ = Perceptual Ability, KFM = Psychomotor Ability; Parameter u is Defined as the Ratio of the Incumbent Standard Deviation to the Applicant Standard Deviation

Table 17a. The Weighted Mean Value of u

	Proficiency			Training Success		
Job Family	GVN	SPQ	KFM	GVN	SPQ	KFM
1	.79	.84	.95	.70	.73	.86
3	.75	.81	.91	.64	.74	.83
4	.81	.85	.93	.70	.76	.87
5	.82	.87	.92	.76	.81	.91
2	.84	.86	.91			
Average	.81	.86	.92	.70	.76	.86

Table 17b. The Standard Deviation of u

	Proficiency			Training Success		
Job Family	GVN	SPQ	KFM	GVN	SPQ	KFM
1	.066	.062	.071	.098	.034	.022
3	.093	.070	.073	.068	.059	.061
4	.092	.078	.073	.087	.075	.070
5	.094	.098	.087	.063	.090	.093
2	.102	.075	.076			
Average	.093	.085	.079	.088	.074	.073

Table 18. Mean Weighted True Validity

Table 18a. Mean Weighted True Validity Across the Job Spectrum for Job Proficiency and Training Success Separately

Study Type	N	Number of Studies	GVN	SPQ	KFM	Average
Training Success	9,635	126	.51	.38	.23	.37
Job Proficiency	64,552	629	.34	.30	.25	.30
Average	74,187	755	.36	.31	.25	.31

Table 18b. Mean Weighted True Validity for Job Families.

	Proficiency			Training Success		
Job Family	GVN	SPQ	KFM	GVN	SPQ	KFM
1	.30	.27	.15	.64	.63	.16
3	.48	.33	.24	.47	.29	.14
4	.36	.29	.22	.52	.38	.24
5	.30	.31	.31	.44	.44	.37
2	.22	.25	.46			
Average	.34	.30	.25	.51	.38	.23

Table 19. Validity of Ability Combinations; GVN = Cognitive Ability, SPQ = Perceptual Ability, KFM = Psychomotor Ability

Table 19a. Validity of Ability Combinations for Job Proficiency: Best Single Predictor, and Two Sets of Multiple Regression Weights With Multiple Correlation

		Beta Weights				Beta Weights		
Job Family	Best Single Predictor	GVN	SPQ	KFM	R_3	GVN	KFM	R_2
1	.30	.24	.09	.01	.31	.29	.04	.31
3	.48	.53	-.11	.10	.49	.46	.06	.48
4	.36	.33	.00	.09	.37	.33	.09	.37
5	.31	.17	.07	.21	.37	.22	.23	.37
2	.46	.10	-.08	.46	.46	.05	.44	.46
Average	.34	.26	.03	.14	.37	.28	.14	.37

Table 19b. Validity of Ability Combinations for Training Success: Best Single Predictor, and Two Sets of Multiple Regression Weights With Multiple Correlation

		Beta Weights				Beta Weights		
Job Family	Predictor	GVN	SPQ	KFM	R_3	GVN	KFM	R_2
1	.64	.37	.49	-.25	.71	.68	-.10	.65
3	.47	.57	-.13	-.01	.48	.49	-.05	.48
4	.52	.53	-.04	.05	.52	.50	.04	.52
5	.44	.26	.15	.19	.50	.35	.23	.49
2								
Average	.50	.49	-.01	.04	.51	.48	.04	.50